

**REPORT ON LOCAL VISUAL EMISSION  
OBSERVER TRAINING  
JULY 26 to 28 2011**



**Prepared by  
Environmental Management Subdivision  
National Environment and Planning Agency  
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## **Background**

The Visual Emission Observer Training in method 9 (opacity), which was held on the 26-28 of July 2011 is one of the prescribed methods of monitoring opacity to verify compliance under the Natural Resources Conservation Authority (Air Quality Regulations 2006). Under this regulation the Agency has licensed thirty one (32) facilities whom all are required to maintain a 20% to 40% opacity standard for their air emission points.

On the 13 October 2010 the Agency received funding from the NRCA to send two of its officers on this specialize training which was previously only offered overseas. The method also requires the individual to be recertified every six month so this cost would become recurrent on the Agency's budget. In order for the Agency to be effective in its monitoring and enforcement of this opacity standard it was necessary to have a greater portion of the Agency's field officers trained in this method.

As mentioned before 32 Air Pollutant Discharge licences have been issued to the various industries across the island. In all the Licences issued the licensee is required to monitor and report Opacity to the Agency. The reference method 9 is also the prescribed method to be used by each licensee and hence the cost to train one of their employees would basically equate to the same cost experienced by the Agency when it trained its officers in October 2010.

Opacity of exhaust air emissions from a stack or any other source is directly related to the release of Criteria Air Pollutants, Lead, Hydrogen Sulphide, Green House Gases and Priority Air Pollutants that will contribute to a rise in ambient air concentrations which in turn will affect human health and the environment negatively. The reduction and control of Opacity levels from exhaust emissions into the air will result in reduced air pollution and the reduction of our annual ambient air quality particulate matter measurements which have been languishing in the high  $70\mu\text{g}/\text{m}^3$  (Jamaica's Ambient Air Quality Standard for annual averages is  $60\mu\text{g}/\text{m}^3$ ) for the past three years especially in the Kingston and St. Andrew region.

### **The five major goals of this project are:**

1. Expand Agency's and other government department's capacity in Method 9 at a reduced cost so that the necessary monitoring and enforcement of the regulations can be effective.
2. Reduce the recurrent cost for recertification every six months for training of government employees.

3. Provide training in method 9 for licensed facilities at a reduced cost so that they can maintain the National standard of 20% Opacity by monitoring, reporting and taking corrective action.
4. A reduction in emissions and the improvement of our ambient air quality.
5. Raise the general awareness of operators of air pollutant sources to the importance of proper source management to reduce emissions, improve efficiency of their process and save energy by better fuel use.

Goals 1-3 and 5 were achieved upon completion of a successful training. However an official survey will be conducted on the participants to confirm this. Goal four will be determined after an analysis of the ambient air quality for 2011 is done.

#### **Strategy to achieve goals**

The strategies remained the same as were presented in the first report on the January installment of this workshop.

#### **Workshop Results**

A total of seventy two (72) Participants attended the workshop. Thirty (30) participants from the public sector and universities combined were trained at no cost to the Government of Jamaica. Forty two (42) private sector employees attended the training but only forty (40) received field certification. Only twenty six (26) of the thirty (30) public sector participants received field certification as four (4) failed to achieve the standard required to qualify as Field Visual Observers.

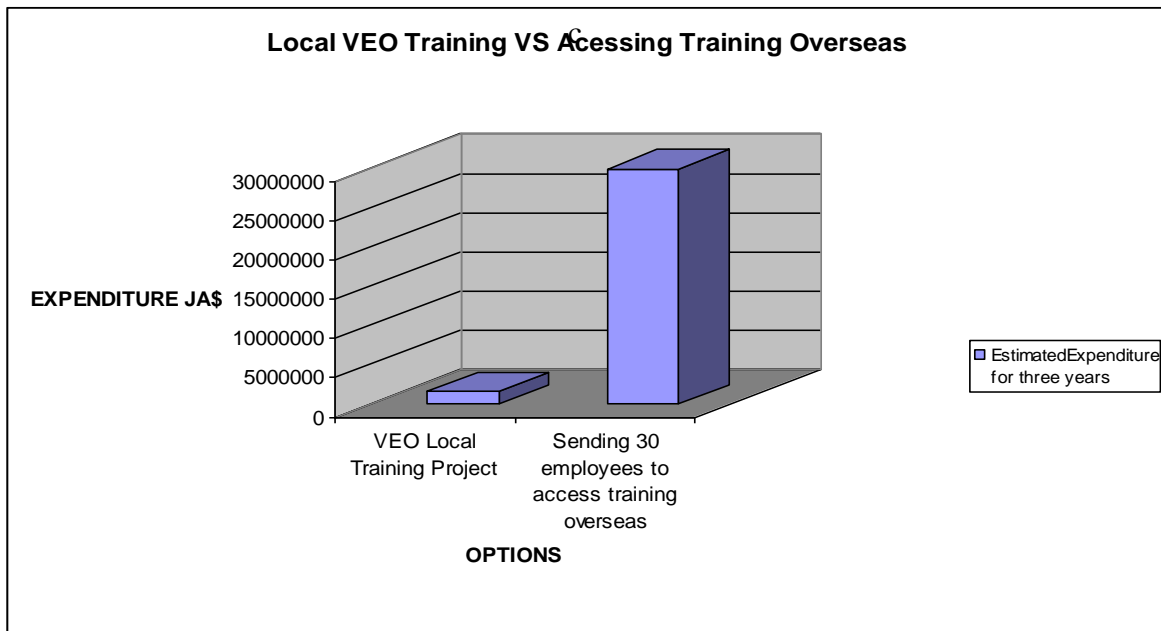
A total of thirty four (34) participants attended the classroom session of the workshop which was hosted by the Chemistry Department of the University of the West Indies Mona. Fifteen (15) participants from Government and Universities (Public Sector) and nineteen (19) from the private sector attended the classroom session. All seventy two 72 participants participated in the field training for two days hosted on the lawns of the Rural Physical Planning Department (RPPD).

From the seventy two (72) participants sixty six (66) received field certification and are qualified to use Method 9 to make and report measurements to the Agency. There were twenty seven (27) new participants and only four (4) failed to achieve field certification. Two (2) persons failed recertification. The certification rate decreased from 99% to 91% when compared with the January workshop where only one person failed.

**Goals 1 and 2.** It will reduce the Agency's cost for training and also decrease its recurrent expenditure for this specialized training.

**Goal 3** is also achieved from as the private sectors cost would be reduced by 80% to access certification from this training. Hence private sector has increased access at a reduce cost and so they are able to certify and re certify their employees to meet the regulatory obligations under the Natural Resources Conservation Authority (Air Quality) Regulations 2006 and their Air pollutant Discharge Licences.

**Graph 1** Below emphasizes the Opportunity Cost saved from the project as currently being operated.



The above analysis does not include the revenue recovery aspect which the project has planned as well. The registration fee charged by the Agency to each private sector participant attending each training schedule for the year will result in a surplus of income recovered at each training event and will allow the training project to be self sufficient and should not require any capital input for the remainder of the three years.

## **Conclusion**

A total of seventy two (72) persons were trained as Visual Emission Observers and the countries capacity to monitor this pollutant stands at sixty six (66) persons. The government's capacity has been increased by twenty six (26) Visual Emission Observers to better regulate the sector. The cost savings by the government and private sector for this specialized training continue to improve and with the tracking of this pollutant the overall air quality should soon be improved in the country

## **Recommendations and follow up actions:**

1. The routine monitoring schedule for all trained certified Agency staff be amended to include the new observers.
2. Routine Opacity readings will be added to the work plans of all trained staff in the coming 2011-2012 year.
3. Data gathered from routine monitoring will be used in Air Shed modeling and added to the National Air Emission Inventory Data base being compiled by NEPA
4. Data gathered should be used to inform policy and standards.
5. All previously trained observers whom attended the first classroom lecture of the VEO training should be instructed to attend the January 2012 workshop classroom lecture. A refresher is needed by most Observers in completing the observer form correctly and completely.

## APPENDIX B

### ACTUAL PRIVATE SECTOR ATTENDEES AT TRAINING

| <b>COMPANIES</b>                          | <b>TRAINEES CERTIFIED</b> |
|---|---------------------------|
| 1. Redstripe                              | 4                         |
| 2. Jamaica Public Service Company limited | 11                        |
| 3. Jamaica Private Power Company Limited  | 3                         |
| 4. EPAM Jamaica Ltd.                      | 1                         |
| 5. Derick Gibson Associates               | 1                         |
| 6. Jamaica Broilers Group Limited         | 7                         |
| 7. Caribbean Cement Company limited       | 1                         |
| 8. Petrojam limited                       | 4                         |
| 9. Noranda Jamaica Bauxite partners       | 3                         |
| 10. JAMALCO                               | 1                         |
| 11. J. Wray and Nephew                    | 4                         |
| 12. WINDALCO Bauxite                      | 2                         |

**TOTAL**

**42**

### Government Attendance at the Training

|         |    |
|---------|----|
| 1. NEPA | 21 |
| 2. JBI  | 2  |
| 3. EHU  | 1  |
| 4. WMHU | 2  |
| 5. JFB  | 1  |
| 6. MGD  | 1  |

**TOTAL**

**28**

### University Attendees

|        |   |
|--------|---|
| 1. UWI | 2 |
|--------|---|

**TOTAL**

**2**

**TOTAL ATTENDEES AT FIELD AND LECTURE**

**72**